

REMARKS

By this amendment, claims 258-263, 267, 269-274, 278-283, 287-292, 294-296, 298-299, and 308-309 have been canceled. In the remarks below, Applicants will refer to those Sections delineated by the Examiner which elicit a response.

Section 4: Rule 1.177(a)

Applicant has included herein a Statement under 37 CFR §1.177(a) listing the other pending reissue applications relating the same parent reissue patent.

Section 5: Rule 1.173(b)(2)

Applicant has included herein claims pending claims 260-263, 278-280, 287 and 288. These claims were erroneously not accounted for in the amendment of October 3, 2005 by Applicant's previous attorney.

Section 6: Claims 256 and 312

Applicant has amended claim 256 to correct the typographical error on line 9; changing "their" to "the," as requested by the Examiner.

A word strike-through ("an") on line 9 of new claim 312 was erroneously submitted by Applicant's previous attorney. Claim 312 is included herein in its correct format.

Sections 8 and 9: The Reissue Oath/Declaration

The Examiner states that the oath/declaration filed on 03/11/05 is defective because it fails to identify at least one error relied upon to support the reissue application. Other objections are noted. A revised reissue oath/declaration is being submitted herewith identifying errors which the Examiner should find acceptable.

The Examiner argues that the error to be corrected is directed to an invention restrictable from the originally elected subcombination claimed in the '157 patent, and therefore not correctable by reissue, citing MPEP §1412.01. Applicants respectfully disagree on several grounds. First, the claims on reissue fall into originally elected Group I, and not Group II. The subcombination of Group I was

characterized by the Examiner as being drawn to a system for converting an image into multiple formats. All of the pending independent claims, and therefore all of the claims of this reissue, are directed to converting an image into multiple formats.

Claims 256 and 285 include the step of producing an output signal having a predetermined display format having a frame rate that is greater than or equal to 24 fps and an image dimension in pixels that is greater than the image dimension in pixels in the horizontal and/or vertical direction of the video information in its digital edited format. Claim 276 sets forth a graphics processor generating an output signal having a predetermined display format having a frame rate that is greater than or equal to 24 frames per second and an image dimension in pixels that is greater than the image dimension in pixels in the horizontal and/or vertical direction of the video information in its digital production format. Claim 312 includes the step of performing non-linear editing to create a digital edited version having a frame rate of substantially 24 fps and an image dimension in pixels. Since, in each case, an output is generated which may have one of several "image dimensions in pixels" multiple formats are clearly supported. Moreover, on page 9 of the Office Action dated March 27, 1995, the Examiner states that elected claims 1-20 reside in "an image capturing system." Certainly all of the pending claims are directed to such a system.

MPEP §1412.01 states that "[w]here a restriction requirement was made in an application and applicant permitted the elected invention to issue as a patent without the filing of a divisional application on the non-elected invention(s), the non-elected invention cannot be recovered by filing a reissue application. In this case, the non-elected subcombination of Group II was a single claim substantially different from the claims of Group I and the claims currently pending in this re-issue application. In particular, originally filed claim 21 was directed to reducing the chrominance bandwidth of an RGB signal without reducing its luminance bandwidth. The method includes the steps of low-pass filtering, matrixing, high-pass filtering, separating and mixing. These steps are distinct from those drawn to non-linear editing and the manipulation of video information having a frame rate of 24 fps.

Finally, with regard to the Examiner's comments regarding the submittal of the third preliminary amendment, these added claims reside in particular embodiments directed to the error(s) identified under 35 USC 251.

Section 10: The Rejection under 35 U.S.C. §251

Claims 256-259, 264-277, 281-286 and 289-319 stand rejected under 35 U.S.C. §251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. For the reasons set forth herein below, Applicants respectfully disagree.

The Examiner's position is that Applicants previously argued that the prior art (Hailey) neither implies nor suggests (1) the use of an "intermediate production format" and (2) "any means for the storage of images..." Additionally, the Examiner states that "the intermediate format, as claimed; explicitly involves 'a graphics processor.'" The Examiner then states that independent claims 256, 276, 285, 312, and 317 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the original application for U.S. Patent No. 5,537,157. The Examiner contends that these claims are invalid for failing to expressly recite: "(1) the use of such an intermediate format nor (2) does Hailey include any means for the storage of images, temporarily or permanently during conversion from an input format to an output expressly involving a graphics processor."

The Examiner's application of the recapture rule is misplaced, because the Examiner has misinterpreted the scope of the amendments to the claims in the 08/11/95 amendment. Application of the three-part recapture test (not applied by the Examiner) demonstrates that no improper recapture exists.

This doctrine of recapture estoppel precludes a patentee from obtaining in reissue subject matter that was surrendered during prosecution of the original patent to avoid the prior art.

The doctrine of recapture estoppel can be summarized as follows: "The recapture rule 'prevents a patentee from regaining through reissue the subject matter that he surrendered in an effort to obtain allowance of the original claims.'" *Pannu v. Storz Instruments, Inc.*, 258 F.3d 1366, 1370-71 (Fed. Cir. 2001) (citing *In re Clement*, 131 F.3d 1464, 1468 (Fed. Cir. 1997)). The doctrine applies where claims in reissue are identical or vary only in immaterial respects from claims that were originally abandoned during the prosecution of the original patent. See *Haliczer v. United States*, 356 F.2d 541 (Ct. Cl. 1966). However, where the reissue claims are broader than the abandoned claim in some respects, and narrower in others, such claims should be allowed:

We ... find [no authority] for the proposition that a limitation added to a claim in obtaining its allowance cannot be broadened, under present statutory law, by reissue if the limitation turns out to be more restrictive than the prior art required. Certainly one might err without deceptive intention in adding a particular limitation where a less specific limitation relative to another element, would have been sufficient to render the claims patentable over the prior art.

In re Richman, 409 F.2d 269, 274-275 (C.C.P.A. 1969).

In addition, the doctrine only applies when the matter was surrendered to avoid prior art. *In re Doyle*, 293 F.3d at 1358 (“[R]ecapture doctrine, which prevents an applicant from recapturing through reissue matter surrendered to overcome a rejection based on prior art, is inapplicable here because the pertinent claims were not cancelled to overcome prior art.”); *Voice Capture, Inc. v. Intel Corp.*, Case No. 4:04-CV-40340, 12/2/04 Order at 13 (S. D. Iowa 2004) (quoting *Doyle* and *AT&T Corp. v. Microsoft Corp.*, 2004 U.S. Dist. LEXIS 2192, *22 (S.D.N.Y 2004)). The *Pannu* court set forth the proper application of the rule:

Application of the recapture rule is a three-step process. The first step is to “determine whether and in what ‘aspect’ the reissue claims are broader than the patent claims.” [citing *Mentor Corp. v. Coloplast, Inc.*, 998 F.2d 992, 996 (Fed. Cir. 1993)] “The second step is to determine whether the broader aspects of the reissued claim related to surrendered subject matter.” [Id.] Finally, the court must determine whether the reissued claims were materially narrowed in other respects to avoid the recapture rule.” [citing *Hester Indus., Inc. v. Stein, Inc.*, 142 F.3d 1472, 1482-83 (Fed. Cir. 1998)].

Pannu, 258 F.3d at 1371.

The M.P.E.P. provides additional guidance in how to apply the recapture test:

However, if the reissue claim recites a broader form of the key limitation added/argued during original prosecution to overcome an art rejection (and therefore not entirely removing that key limitation), then the reissue claim may not be rejected under the recapture doctrine. *Ex Parte Eggert*, 67 USPQ2d 1716 (Bd. Pat. App. & Inter. 2003) (precedential). For example, if the key limitation added to overcome an art rejection was “an orange peel,” and the reissue claim instead recites “a citrus fruit peel,” the reissue claim may not be rejected on recapture grounds.

M.P.E.P. § 1412.02 (C).

A review of the file history of the ‘157 patent, and in particular the amendments dated August 8, 1995 and October 10, 1995, reveal that the actual limitation added to avoid the prior art was the inclusion of high-capacity video storage used to store video information in a particular format. In an

Office Action dated April 10, 1995 (Paper No. 4), the examiner rejected claims 1, 2, 3, 4, 8-11 and 13-20 as being anticipated under 35 U.S.C. § 102(e) in view of Hailey, U.S. Patent No. 5,243,433 and rejected claims 5-7 as being obvious under 35 U.S.C. § 103 over Hailey in view of Sharman, U.S. Patent No. 5,045,932. In response to these rejections, the applicants amended original application claim 1 to add a high-capacity storage means, to add that the graphics processor converts the display format of the program into an intermediate production format, and to add that the program is stored in the production format on the high capacity storage means (See, Paper No. 6, at pp. 1-2). The Applicants did not make the same amendments to original application claims 13 and 17.

The Examiner's inclusion of a "graphics processor" as subject matter that was added during the 08/11/95 amendment is highly unusual. The Applicants did not amend any claim to add a "graphics processor" in the 08/11/95 amendment. Further, original application claim 17 of U.S. Patent No 5,537,157 (issued claim 20) is a method claim which, following the amendments, included the steps of: "converting the video program into a production format having a predetermined rate and image dimension in pixels" and "providing high-capacity video storage means storing the program in the production format in the high-capacity storage means." Thus, original application claim 17 has never included a "graphics processor." The Examiner cannot import the structure of a "graphics processor" from the specification into the method steps of issued claim 20. See, *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1032, 61 U.S.P.Q. 2d 1470, 1477 (Fed. Cir. 2002) ("The method of claim 2 does not mention structure by which the 'venting' is to be performed. Thus, Epcon is correct that the district court imported language from the specification into the claim.")

Original claim 13, unlike original claim 1, did not **require** that there be a conversion of the format of the input video program from an input format to a "production format." Original claim 13 included a "means to convert the input program into a 24 frames-per-second (fps) production format, if necessary, according to one of the following aspect ratios for review on the color display." In the 08/11/95 amendment, the Applicants made a change to make clear that the format of the input program may be the same format as the "production format," and therefore no conversion of the input program to the production formation would be required: "means to convert the input program into a 24 frames-per-second (fps) production format, if not already in such a format [necessary, according to one of the following aspect ratios] for review on the color display." Thus, it is clear that the amendment to claim 1 to require the conversion of the format of the input program to an intermediate production

format was not an amendment that was required for patentability.

In the remarks to the response, Applicants described the amendments to claim 1 and stated that: "Hailey neither implies nor suggests the use of such an intermediate format, nor does Hailey include any means for the storage of images...." and that "Sharman et al. does not include a high-capacity video storage means....". See Paper #6 (8/8/95 Amendment) at 10-11.

The Applicants' further remarks regarding Hailey (not cited by the Examiner) make clear that the addition of the high-capacity storage means which stores the video program in a format (in original claim 1, called the "intermediate production format" and, in original claims 13 and 17, called the "production format") from which one or more video programs in one or more output formats (different from the format of the video stored on the storage means) can be produced was the distinction of the claims over Hailey:

In fact, the Hailey apparatus is substantially limited to a scan-conversion pipeline where input images are sequentially converted into an output format directly, obviating the need for a high-capacity storage means, as now recited in claim 1.

Thus, in contrast to this invention, which can later select a previously stored program in the production format and convert it into either a standard/widescreen formatted program, an HDTV-formatted program or both simultaneously, Hailey is restricted to a direct conversion of a scanned film format to an output limited to a specified aspect ratio in pixels. Indeed, in Hailey, the input and the output format are identical, since, once he has selected which portion of the input format he intends to view through his "window" (see Figure 2), there is no distinction between that which is scanned and that which is finally output. In contrast, the present invention, due to the high-capacity storage means as now set forth in claim 1, in cooperation with the operator interface and interface units, the instant system may carry out numerous conversions from one format to another, including simultaneous conversions to different formats.

In addition, in the Examiner Interview Summary Record dated May 25, 1995, the Examiner noted that "Applicant favorably argued that Hailey fails to show a 'high capacity storage means' incorporated in the proposed amended claims." See Paper #5 (Interview Summary Record dated 5/25/95). Applicants did not amend original claims 13 and 17 to add a high-capacity storage means in the 08/11/95 amendment.

On October 5, 1995, the examiner telephoned the applicants' attorney regarding claims 13 and 17. In response to that call, applicants amended original application claim 13 to add a high-capacity

storage means and add that the production format of the program is stored on the high-capacity storage means. Applicants also amended original application claim 17 to add the step of storing the program in the production format on a high-capacity storage means. (See, Paper Nos. 8 and 9, dated October 10, 1995 and November 1, 1995, respectively).

Thus, original application claim 13 in which the conversion of the input format to the production format was not required, was not allowable over Hailey until the applicants amended original application claim 13 to add the high-capacity storage means. The only surrender of claim coverage would be the addition of the high capacity storage means. There was therefore no surrender with respect to the converting of the input program to the production format, as the Examiner appears to contend.

Each of pending claims 256, 276, 285, 312, and 317 includes a high-capacity storage medium. Thus these claims have retained the high-capacity storage means limitation.

The recapture test, as set forth in the *Pannu* case, and at section 1412.02 of the M.P.E.P., is paraphrased below. The comparison is between the original claims of the '157 patent (before they were amended to add the above-discussed limitations regarding storage and format), sometimes referred to as the 'cancelled' claims, and the currently pending reissue claims. See M.P.E.P. § 1412.02 (C)(1).

As discussed above, the current reissue claims are broader in some aspects than those of the '157 patent. The patentee's failure to claim all to which he was entitled is therefore the error leading to the application for reissue.

The broader aspects of the pending claims relate to aspects other than surrendered subject matter – all matter that could be deemed to have been surrendered was with respect to the high capacity storage means, and such limitations remain. Even if it is argued that the limitations regarding storage was broadened, they were not eliminated, and thus application of the recapture rule would be improper. M.P.E.P. § 1412.02 ("However, if the reissue claim recites a broader form of the key limitation added/argued during original prosecution to overcome an art rejection (and therefore not entirely removing that key limitation), then the **reissue claim may not be rejected under the recapture doctrine.**") (citing *Ex Parte Eggert*, 67 U.S.P.Q.2d 1716 (Bd. Pat. App. & Inter. 2003)) (emphasis added).

Because the claims were not impermissibly broadened by completely removing a limitation

that was previously surrendered, it is not necessary to reach this question. However, even assuming that this question is reached, the claims were in fact narrowed in certain respects: while the original patent was amended to include a limitation broadly specifying a format that could be stored, the current reissue claims include the specific format of a digital (in one instance, compressed) 24 fps format. The current reissue claims are narrower in that they all either include a limitation that a camera captures the input video or include a limitation of performing non-linear editing on the video program in its production format.

Section 11: The Rejection under 35 U.S.C. §112, first paragraph.

Claims 256-259, 264-277, 281-286, and 289-319 stand rejected under 35 U.S.C. §112, first paragraph.

A. Claim 256 re "Non-Linear Editing"

With respect to claim 256, the Examiner has indicated that the reference to "non-linear editing" is insufficient to support the step recited in line 9 of Claim 256. However, "non-linear editing" was known in the art at the time of the original application; for example, one of the references cited by Applicant in the Information Disclosure is Peters, *et al.* (5,930,445) which, in turn, cites Peters' own presentation 6 years earlier at a SMPTE Conference: "Peters, Eric C. "Real Time, Object Oriented, Non-Linear Editing System for Film and Video," presented at 131st SMPTE Technical Conference, Los Angeles, California, Oct. 21-25, 1989, preprint No. 131-91." Even in 1989, "non-linear editing" was in regular use around the world, and the term would not have required any explanation to any competent practitioner of the art.

If the Examiner instead considers the context of how the phrase "editing" is used in the multiple discussions within the disclosure, it will be clear that "non-linear editing" has been referenced in multiple instances in the disclosure; for example: "For this application, a data storage unit 8 is provided to facilitate editing and production activities, and it is anticipated that these units would be employed in much the same way as video cassettes are currently used in Betacam and other electronic news gathering (ENG) cameras and in video productions." (8:38-44,¹ emphasis added) (See also, 2:48-54) In fact, in the "Field of the Invention" section of the disclosure, the Applicants specifically stated that the invention relates to "a multi-format video production system capable of professional quality

¹ All citations to the disclosure herein are to the column and line numbers in U.S. Patent No. RE 38,079.

editing and manipulation of images intended for television and other applications, including HDTV programs." (1:14-19; emphasis added).

B. The Use of the Phrase "Digital Production Format" in the Claims

The Examiner also objects to the use of "digital production format" in the currently-pending claims. In the context of the claims and the disclosure, this term refers to the format of the video program stored on the high-capacity storage medium. Indeed, claims 14 and 20 of U.S. Patent No. 5,537,157 (the '157 patent) used the term "production format" in this manner. Applicants' present term "digital production format" is similar to, but narrower than, the term used in the original claims, as noted by the Examiner. If the Examiner prefers, Applicants would consider modifying "digital production format" to "production format" in the currently-pending claims, to conform to the same term in claims 14 and 20 of the '157 patent.

C. Inclusion of "Audio" in the Claims

The Examiner argues that claims are drawn to include non-linear editing to be performed on the audio signal as well as the video signal. Within the context of the disclosure (in which treatment of the audio regularly has been included with the disclosure of the treatment of the video), and considering that non-linear editing was well known in the art, the inclusion of the audio with the video in editing would be understood by any competent practitioner in the context of a system designated as an "Audio/Video Production System" (the title of the underlying '157 patent). Indeed, the disclosure describes interleaved audio/video (4:61-67 and 9:28-40). The examiner further states that claim 312 also describes editing the audio portion. This is not the case. Claim 312 describes the fact that there is an audio component, but claim 312 does not state that the audio component is edited.

D. The Meaning of the Term "Receiving" in the Claims

The Examiner further states that claim 312, which specifies "receiving" video and audio information, "suggests broadcasting," although no such limitation is mandated by the use of the word "receiving." The Examiner appears to be defining the term "receiving" more narrowly than that intended by the Applicants. The Applicants do not intend to impart any special meaning to "receiving," which would limit "receiving" to only receiving broadcast audio and video information. Instead, Applicants intend that "receiving" be given its ordinary meaning of "taking possession or delivery of." (See, *Webster's Third New International Dictionary Unabridged*, at 1894 (1993)). Thus, "receiving" in claim 312 would include taking possession or delivery of audio and video

information from, for example, a camera, a computer disk, a tape, an image scanner, a film transfer system, a television broadcast signal, a satellite signal, or a high bandwidth data network.

E. The Embodiment of Claim 256

The Examiner states that "it is not even clear which embodiment is intended to be described by claim 256." The Examiner appears to be seeking to select one of the embodiments by selecting one of the Figures, to the exclusion of the other figures and the exclusion of any description in the specification addressed generally to the invention as a whole. It is improper to limit any claim to a particular embodiment depicted in a figure of the patent. See, *Prima Tek II, LLC. v. Polypap*, 318 F.3d 1143, 1148-49, 65 U.S.P.Q.2d 1818 (Fed. Cir. 2003) ("Similarly, the mere fact that the patent drawings depict a particular embodiment of the patent does not operate to limit the claims to that specific configuration."); *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1342, 59 U.S.P.Q.2d 1290 (Fed. Cir. 2001) ("These drawings are not meant to represent 'the' invention or to limit the scope of coverage defined by the words used in the claims themselves."); *TI Group Auto. Sys. v. VDO N. A., LLC*, 375 F.3d 1126, 1136 71 U.S.P.Q.2d 1328 (Fed. Cir. 2004) ("the mere fact that the patent drawings depict a particular embodiment of the patent does not operate to limit the claims to that specific configuration."), quoting, *Anchor Wall Sys. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1306-07, 67 U.S.P.Q.2d 1865 (Fed. Cir. 2000).

Applicants intend that Claim 256 describe the embodiments of Figures 4, 6, and 7 and the general description of the invention found, for example, in Figures 1a-1d, 2:46-6:26; and 12:26-13:27. The disclosure does describe audio data as it applies to all of the embodiments of the invention (See, 4:60-67; 9:28-40; 12:6-14) and describes non-linear editing (8:38-44). The Figure 4 embodiment does disclose "receiving," as that term is used by the Applicants (See, audio and video inputs at 122, 126, and 138). In Figure 4, audio processor 136 may convert audio into a production format and audio storage may be performed in storage devices 100, 102, and 104 separately from the video or interleaved with the video. In Figure 7, audio processing is implicit in the fact that Figure 7 is described as a "universal television production system." (13:27-29; 1:14-19). "Television" would have been understood by persons of ordinary skill in the art as including audio. Additionally, the output formats of Figure 7 are described as including NTSC, PAL/SECAM, and HDTV. Persons of ordinary skill in the art would also have understood these formats to include audio portions.

F. The Phrase "When the Video Information is Not Received in Such a Format" is Not New Language in the Claims

The Examiner states that there is an issue with the language of claim 256: "when the video information is not received in such a format." The Examiner states that this is new language, but this language is not new at all. Original claim 14 of the '157 patent recited a "means to *receive* an input video program in one of a plurality of input formats" and a "means to convert the input program into a 24 frames-per-second (fps) production format *if not already in such a format*, for storage within the high-capacity video storage means and for review on the color display." In other words, claim 14 of the '157 patent specifically covers "receiving" [means to *receive*] video in a 24 fps format [converting the input video into 24 fps format *if not already in such a format*]. These limitations of claim 14 of the '157 were present in original application claim 13 and therefore are part of the original disclosure.

G. Dependent Claim 258

The Examiner recites a matter with respect to claim 258 and film input. This matter is moot, as the Applicants have cancelled claim 258, without prejudice.

H. Incorporation of Figure 4 into Figure 6

The Examiner appears to object to the incorporation of the embodiment of Figure 4 "as a single stage 162 into the embodiment of Figure 6," stating that "there is no clear nexus between the Fig. 4 embodiment and stage 162 of the Fig. 6 embodiment." The input to the production system of Figure 6 is film at 24 fps. Figure 4 specifically includes an image scanner as input device (134), which is described as optionally being a film scanner. (12:2-6). In other words, Figure 6 is intended to serve as an aid in discussing the possible outputs that may be derived from the multi-format audio/video production system, when operating in its preferred embodiment at 24 fps, and including incorporating film-based material inputs also produced at 24 fps. Thus, no "incongruent connectivities" result from simultaneously considering the functional component diagram of Figure 4 with the interrelationship diagram of Figure 6.

The Examiner further states that "Fig. 6 is described as a system of existing *and planned* formats," but does not cite to the portion of the disclosure which describes Figure 6 as including planned formats. Regardless, the invention contemplates planned formats, such as HDTV in Figure 4 (see reference no. 124), and therefore physical realization of this embodiment is actual. Applicants have provided material that shows how the system would be applied to the specific systems "under

consideration by the Advanced Television Study Committee of the Federal Communications Commission.” (5:48-50) At the time of the Application, these standards had not yet been finalized, so it was only possible to demonstrate compatibility of the instant invention with the formats that had been publicly disclosed. These compatibility discussions were not speculative, but rather directed to the comparisons that were available to be made, and which covered those formats that did eventually comprise the ATSC standards.

I. Dependent Claim 265 re Figures 4 and 7

With respect to claim 265, which depends from claim 256 and recites that the output format has a pixel dimension of 1920 x 1080, the Examiner states that this format is described with respect to Figure 7, but the Figure 4 and 7 embodiments are incompatible. The only material difference between figures 4 and 7 is that Figure 4 does not specify the manner in which the video information is received by the system (i.e., video information may be received in any manner via video inputs 122 and 126). In Figure 7, however, the video information is specifically received in one of three ways, via conventional broadcast signal 210, via satellite 212, or via a high bandwidth data network 214. As video information received via these means is digital and may be compressed, Figure 7 specifies that a digital tuner and a decompression processor may be used. Thus, Figure 7 is intended to demonstrate that even atypical sources of audio/video material intended for editing, such as satellite, over-the-air (broadcast), and wideband data networks, can be utilized with the system disclosed.

J. Dependent Claim 267

The Examiner objects to dependent claim 267 regarding the limitation that the graphics processor is incorporated into a general purpose computer. This objection is moot, as Applicants have canceled claim 267, without prejudice.

K. Image Manipulations and the Meaning of “Graphics Processor”

The Examiner further discusses claims 269, 282, and 291 regarding “non-linear transformations,” claims 270, 283, and 291 regarding “cropping,” and claim 271 regarding “panning and/or scanning.” This matter is moot, as Applicants have canceled claims 269, 270, 282, 283 and 291, without prejudice.

L. Dependent Claim 273

The Examiner objects to dependent claim 273 regarding the limitation of “adding special effects to the video information in its digital production format.” This objection is moot, as

Applicants have cancelled claim 273, without prejudice.

M. Dependent Claim 274

The Examiner objects to dependent claim 274 regarding the limitation of "adding additional video information to the video information in its digital production format, and wherein the additional information has the same digital format as the video information in its digital production format."

This objection is moot, as Applicants have cancelled claim 274, without prejudice.

N. Claims 276 and 285 re the Camera

The Examiner objects to claims 276 and 285 and contends that these claims recite new matter. The Examiner then addresses the use of the term "capturing" and expresses his understanding (which is correct) that capturing is meant to describe a camera. Claim 276 is an apparatus claim which explicitly recites "a video camera"; however, 285 is a method claim, which only recites "capturing digital video information". Thus, 285 could equally apply to digital video information received from a film transfer system or a source of computer graphics.. The Examiner then proceeds to identify the camera of Figure 2a and the graphics processor of Figure 3 as performing the functions of recording and conversion of the claim.

The Examiner states that "the format used by the camera is limited exclusively to PAL/HDTV formats (col. 6 lines 25-32)." The Examiner ignores the portion of the specification which explicitly describes the camera of Figure 2a as being modified "for use by the present invention" and the paragraphs which follow which describe these modifications. (See, 6:27-64). Elsewhere, the patent describes the fact that the present invention implements a 24 fps format (not PAL/HDTV) for the internal frame rate. (See, 2:54-65 and 4:8-39 and 12:24-42). In the context of the camera of Figure 2a, which is an embodiment of the invention (see, 3:28-29), this means that the recorded video has a 24 fps format, which is not PAL/HDTV. Additionally, Figure 6, which applies to all of the embodiments of the invention, shows the input video format being 24 fps. (Figure 6 and 12:26-42). Thus, the capturing at a frame rate of 24 fps and recording in stage 8 of Figure 2a in a format of 24 fps is supported by the original disclosure.

The Examiner says that the recording portion of the camera is not disclosed as recording at 24 fps. All recording is described at 8:34 (previously cited rates) and cols. 5-6 as being at 24 fps. However, as evidenced by the conversions below, (which assumes that 1 byte is assigned to each of R,G, and B for each pixel), the data rates and file sizes described in the specification clearly reflect 24

fps recording.

For Standard/widescreen (16:9 SDTV):

$1024 \times 576 = 576 \text{ KPixels}$ [This is the size of the image frame]

$576 \times 3 = 1728$ [convert to R,G,B] $\times 24 \text{ fps} = 40.5 \text{ MB/sec}$

→ Compress 5:1 → 8.1 MB/sec

For HDTV:

$2048 \times 1152 = 2304 \text{ KPixels} = 2.250 \text{ MPixels}$ [This is the size of the image frame]

$2304 \times 3 = 6912$ [convert to R,G,B] $\times 24 \text{ fps} = 162 \text{ MB/sec}$

→ Compress 10:1 → 16.2 MB/sec

The Examiner further contends, with respect to claims 276 and 285, that the graphics processor 82 is never disclosed as performing frame rate and size conversion and contends that the “other” graphics processor in the disclosure cannot be substituted for graphics processor 82. As discussed above, graphics processors capable of performing one or more of the various functions referred to in these claims were available and were readily understood as being available by those skilled in the art. The term “graphics processor” would have been understood by persons skilled in the art as being devices whose execution of a sequence of commands creates a display image. Regardless, at 9:11-22, the Applicants state that the graphics processor of the camera 82 “performs the various manipulations required to process the input video signals 84 and output video signals 86.” At 4:8-39, the Applicants described the various manipulations, which are equally applicable to graphics processor 82 as they are to all of the embodiments of the invention.

O. Dependent Claims 284 and 293 re 1920 x 1080

With respect to dependent claims 284 and 293, the Examiner has indicated that the 1920 x 1080 pixel dimension is only disclosed in one location with respect to Figure 7; however, larger formats (2048 x 1152) and smaller formats (1280 x 720) are disclosed and thoroughly discussed—including the observation that the image size is not a limitation—so the objection to the 1920 x 1080 format (which presents the same 16:9 aspect ratio) is not comprehensible.

P. Dependent Claim 296

The Examiner objects to dependent claim 296 regarding the limitation of a compressed digital audio format. This objection is moot, as Applicants have canceled claim 296, without prejudice.

Q. Dependent Claim 316

The Examiner objects to dependent claim 316 regarding the limitation regarding RGB processing as a process involving data captured by the camera. The Examiner has indicated that "claims 316-319 appear allowable over the prior art." As Applicants have addressed the issues under 35 U.S.C. 112, these claims should be in condition for allowance.

R. Dependent Claim 317

The Examiner objects to dependent claim 317. The Examiner has indicated that "claims 316-319 appear allowable over the prior art." As Applicants have addressed the issues under 35 U.S.C. 112, these claims should be in condition for allowance.

S. Claims 256 and 312 re the Phrase "When the Video Information is not Received in Such a Format"

The Examiner contends that the phrase "when the video information is not received in such a format" in claims 256 and 312 constitutes new matter. More specifically, the Examiner contends that the embodiments intended to be covered by these claims (Figs. 4, 6, and/or 7) do not "involve reception of this format." As discussed above in Section 11-F, the inclusion of a phrase indicating that the video information may be received in a 24 fps format in a claim that specifically uses the term "received" was present in original application claim 13 and therefore was part of the original disclosure. This language was also present in claim 14 of the '157 patent. There is clear support in the disclosure for this language in claims 256 and 312.

T. Figure 7 is not Limited to "Conventional Broadcast" Video

In addition, the Examiner states that the embodiment in Figure 7 receives conventional broadcast video, which is not in a film frame format. Nowhere does the specification state that, in Figure 7, only conventional broadcast is received. Rather, the specification states that "signals are provided from any of several sources." (13:30). The Examiner appears to focus on the fact that one of these sources is "conventional broadcast signals" (13:31). This statement, however, says nothing

about the format of the video information with respect to its frame rate or whether it is NTSC, PAL, HDTV, or some other format. Additionally, if these were "conventional broadcast video," there would be no need for a "digital tuner" (218) or a "decompression processor" (222) both of which are indicated in Figure 7. "Conventional broadcast video" would have been understood to be in an analog format and therefore a digital tuner and a decompression processor would have been unnecessary. Even further, the specification describes two other sources of the video information – satellite and a high bandwidth data network. Neither are described as transmitting "conventional broadcast video" and persons of skill in the art would not have understood either to transmit "standard broadcast video." Consistent with Figure 7, both would have involved the transmission of digital, compressed information.

Section 12: The further Rejection under 35 U.S.C. §112, first paragraph.

The Examiner has indicated that "[c]laims 256-259, 264-277, 281-286, and 289-319 are further rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement." The §112, first paragraph, rejection relating to claims 258-259, 269-274, 281-283 and 289-292, 294-296, 298-299, and 308-309 is moot, as Applicants have canceled these claims.

As previously argued in the discussion of Sections 10 and 11 herein above, Applicants believe that the disclosure is more than adequate to satisfy this requirement, and has provided specific and substantial citations to the disclosure in these arguments to justify this position.

A. Figure 2a

More specifically, the Examiner repeats his contention that the camera of Figure 2a only provides PAL or HDTV formatted data. In Section 11-N, above, Applicants explain that the disclosure does provide that the camera of Figure 2a, which depicts an embodiment of the invention, records video at a frame rate of 24 fps and therefore does not provide PAL or HDTV formatted data.

B. Figure 5

The Examiner states that Figure 5 only goes with stage 120 of Figure 6. This statement is incomprehensible, as there is no stage 120 in Figure 6. Applicant believes that the Examiner intended to state that Figure 5 goes with stage 124 of Figure 4 (See, 11:11-50). The system disclosed in Fig. 5 is generic in its application. (See, 3:38-40 and 11:18-48) Thus, the teachings of Fig. 5 are equally applicable to the cameras of Figs. 2a, 2b, and 2c; the "disk-based video recorder" of Fig. 3; the "multi-

format audio/video production system" of Fig. 4; and the "television production system" of Fig. 7. (11:22-50; emphasis added).

C. The Relationship Between Figures 4 and 6

The Examiner states that "the specific relationship between Fig. 4 and Fig. 6 is not adequately explained." Applicants discussed, in Section 11-H above, how Fig. 6 serves as an aid in discussing the possible outputs that may be derived from the multi-format audio/video production system when operating in its preferred embodiment at 24 fps and incorporating film-based material as the input at 24 fps. Fig. 6 only is intended as a functional aid, to assist the reader in understanding how the system would be used in practice. (See, 12:26-42).

D. Figure 7

The Examiner states that Figure 7 only permits conventional broadcast and transmission at 24 fps is not used in broadcasting. As discussed above in Section 11-T, Figure 7 is not limited to conventional broadcast and the specification does support receipt of video information at a frame rate of 24 fps. In addition, since the previously disclosed references to the ATSC discussions already encompassed 24 frame-per-second formats, these formats would be within the scope of the system of Fig. 7, as well. Further, Figure 6, which depicts an implementation of the invention in general (which includes the embodiment of Figure 7), shows that video in a 24 fps format may be input to the system. (See, 12:26-42).

E. Figure 6

The Examiner states that Figure 6 only allows for film frame rate data to be processed. Applicants agree with the Examiner and state that Figure 6 demonstrates input video at a film frame rate of 24 fps. Applicants wish to elaborate, in addition, that Figure 6 is not itself a separate embodiment of the invention; Figure 6 depicts in functional, rather than structural manner, the many output formats that may be obtained when video at a film-based frame rate of 24 fps is input to any of the embodiments of the multi-format audio/video production systems of the invention (depicted as reference no. 162, the "M.A.P.S." [Multi-Format Audio/Video Production System]). The specification makes clear to those of ordinary skill in the art that these formats are "compatible with the invention," i.e., compatible with all of the embodiments depicted and described in the disclosure. (See, 12:26-42).

F. The Graphics Processor

The Examiner again contends that the graphics processors depicted in the Figures differ from

one another and are not interchangeable. Applicants demonstrated above in Section 11-N that graphics processors capable of performing one or more of the various functions referred to in the specification were available and were readily understood as being available by those skilled in the art. Applicant's written description is in fact enabling of the graphics processors and methods that are currently being claimed. Both hardware and software based implementations are described in detail in the locations in the specification referred to in the preceding paragraph. Graphics processors performing image manipulations as described in the Application such as frame rate change, pixel interpolation, compression, image resizing (Genesis Microchip, Inc.) and decompression were available as standard equipment from manufacturers such as TrueVision, Quantel, and Matrox Electronics Systems Ltd. All of the above functions are typical functions incorporated in graphics processors described in the specification, and were readily available at the time of Applicant's invention. In terms of the IEEE dictionary definition, these processors are devices whose execution of a sequence of commands creates a display image. Further, the Examiner appears to be limiting the claims the specific embodiment depicted in one of the Figures, which is improper. *See, Prima Tek II*, 318 F.3d at 1148-49, 65 U.S.P.Q.2d 1818 "Similarly, the mere fact that the patent drawings depict a particular embodiment of the patent does not operate to limit the claims to that specific configuration."); *Gart*, 254 F.3d at 1342, 59 U.S.P.Q.2d 1290 ("These drawings are not meant to represent 'the' invention or to limit the scope of coverage defined by the words used in the claims themselves."); *TI Group*, 375 F.3d at 1136, 71 U.S.P.Q.2d 1328 ("the mere fact that the patent drawings depict a particular embodiment of the patent does not operate to limit the claims to that specific configuration.")

G. General Purpose Computer

Lastly, the Examiner contends that "the capabilities of general-purpose computers at the time of filing were limited." Before specifically addressing the Examiner's remarks, it should be noted that none of the currently-pending claims are limited to methods or systems that are implemented in general-purpose computers.

In a first reference ("Non-Standard Platforms --- Ready for the Digital Era" by Owen *et al.* of "Quantel Limited"), the authors highlight the limited capabilities of the "Standard Computers" of the day: "Standard computers do not offer digital video inputs and outputs and few, if any, parts of the system can run at real time video rates. But, as shown in figure 4, a whole new system can be

configured, involving the processors and RAM as well as specialist hardware such as disks, to handle video data and cards to provide the video I/O. At this point the platform may no longer be capable of running a full range of software packages – some parts requiring configuration for other applications. Clearly this is no longer a standard platform.” However, if this last statement were to be accepted at face value, no personal computer could be considered “standard”, in that the simple act of loading the operating system (for example, “Windows”) or any of many other software packages would add files and other software components that would effect custom configurations on the computer.

In this particular reference, the authors’ viewpoint may be biased by their employment at a company (Quantel) that manufactures only custom-made equipment, albeit with an building-block approach equivalent to that advocated by the Applicant in the disclosure. As previously documented in materials accompanying Applicant’s response to the previous Office Action, several companies already were in the business of offering plug-in circuit boards to upgrade the out-of-the-box capabilities of personal computers in the early 1990s. In fact, there existed in 1990, the TrueVision “ATVista” Graphic Engine, which provided the necessary I/O capabilities, as well as recording (or outputting) a signal in either NTSC or PAL format. At this point in time, it even was standard for consumer video games to offer adapters to provide display capabilities in NTSC or PAL format (as appropriate for the local user’s environment), so that they could be connected to the user’s television set.

In addition to the content of the passage quoted by the Examiner, there are other relevant sections within the same document which carry a *contrary* message: “Compared to data or text, uncompressed images create very large files. Moving images, such as video, make 30 very large files per second so its storage demands very high disk capacities, while its continuous data rate is well outside the range of un-aided standard computer disks. Such factors alone will limit standard platform operations to non video rates or to compression – which, due to the random nature of picture contents, will never be a perfect process.” [Emphasis added] (Page 2/2) and: “Picture compression has been used as a way of circumventing the limitations of computer hardware in offering sufficient storage and speed of data transfer but the results do not reliably meet the quality expectations of the television production industry.” [Emphasis added] (Page 2/9) Thus, the authors conceded that compression would be an appropriate solution, although they did not believe that this would be adequate to produce quality results. However, they were proven wrong in this assessment, as, by 1992 Panasonic already

was circulating its DV technical specifications (including 5:1 video compression), for its DVCPRO equipment that was well on its way to becoming the new Broadcast standard by 1995.

In the second reference cited by the Examiner ("*The Digital Transformation of Hollywood: Format and Resolution Independent Digital Post-Production*" by Epstein *et al.*), the authors take a different position with respect to the capabilities of general-purpose computing platforms: "With the constant increase in general purpose computational power, many digital post-production systems are now based on general purpose, commercially available computer systems rather than proprietary ones.

The rate at which film and video post-production is digitally processed ~~is~~ [is] proportion[al] to the use of general purpose computers in this industry." (Page 442, Abstract—typos from Examiner's citation corrected as shown, so that this quote exactly matches authors' paper). This is an "industry-survey" type of document—it provides only an overview of the current state of the industry, with some predictions for the future direction of, and applications for, the technology. There is no real detail within the document—nothing that could be construed as enabling of any technique or system. It discusses "resolution independence", but there is no suggestion of utilizing a single common format, or of storing the material in a single common format—both explicitly described in Applicant's disclosure. It also discusses working with materials sourced at different frame rates (including film materials), but no specific frame rates are suggested. However, the overall message of this presentation is that general-purpose computers can be used to perform post-production activities that previously were considered to be the realm only of systems designed specifically for this purpose.

By comparing the teachings of these two references, the Examiner simultaneously is advancing two incompatible arguments: first, that the Applicants' disclosure is inadequate to enable one skilled in the art to practice the invention, and, second, that the content of the disclosure is so obvious that there is no inventive component. Applicants believe that neither position is appropriate, and has provided citations to the disclosure herein above in the discussion of Sections 10, 11, and 12 of the middle ground, demonstrating both that the level of detail in the disclosure is adequate to practice the invention, and also that the novelty of the invention is clear in terms of solving the problems identified in the Examiner's own references (and, further, that Applicants' disclosure teaches in opposition to "conventional wisdom").

Applicants believe the *impasse* resides in the exact meaning of the term "Standard Platform". Epstein *et al.* use the term to mean high-end computing equipment: "With the advent of powerful

workstations and server class machines, the processing power necessary for computing the effects required to do post-production is now available.” (Page 442, Section 1) This position would be expected, in that the presenters’ employer was IBM, a manufacturer of exactly the types of workstations and server computers that the authors advocate utilizing. In contrast, Owen *et al.* takes the position that no general-purpose platforms can support real-time video without unacceptable levels of video compression, in keeping with the types of equipment manufactured by their employer, Quantel.

The meaning of “Standard Platform” would, necessarily, change and evolve with time. For example, in 1994, a PC user would have to make a decision between “internal” and “external” for a modem that was to be added to his “out-of-the-box” Personal Computer; in a few years, it would be normal for a modem to be included as part of the motherboard itself. In 1994, Ethernet interfaces would have been plug-in circuit board options. Soon, they became standard for PC supplied for use on corporate networks, and now most PCs even include wireless connectivity. Today, Dell Computer Company advertises their direct-sales-to-users approach, and touts their position that the user can have anything desired, just by asking for it—in effect, every possible configuration of their hardware offerings can be considered to be a “standard platform”.

At the time of the invention, Applicants took the position that the practical implementation would utilize a general-purpose computer—meaning a Microsoft Windows-based PC, not a workstation nor a server—and would add available or custom plug-in circuit boards to perform the desired graphics and production functions required for the particular implementation. Applicants also acknowledged that what might be special-built circuitry one day, might become standard equipment in the future. However, Applicants’ disclosure is directed not just to post-production (as is the case of the references cited by the Examiner) but rather resides in a system which is capable of working in a production environment as well—as evidenced by the considerable portion of the disclosure which is devoted to cameras, and to demonstrating how existing cameras may be modified to be integrated into the system in the preferred embodiment. In addition, many of the processes optionally may be performed by way of software implementations, such that there may not be physical hardware involved in performing a specific function.

Further evidence of the evolving meanings of “standard platform” and “general-purpose computing”, and their relevance within the teachings of the cited references, is include with

discussions in the subsequent Sections.

Section 15: The Rejection under 35 U.S.C. §103(a) over Epstein *et al.* in view of Spoer and Hioki *et al.*

Claims 256, 258, 259, 266, 268-274, 294-303, and 311 stand rejected under 35 U.S.C. §103(a) over Epstein *et al.* in view of Spoer and in view of Hioki *et al.* The §103(a) rejection relating to claims 258-259, 269-274, 294-296, and 298-299 is moot, as Applicants have canceled these claims.

Initially, The Examiner states that “[t]he digital post-production system of Epstein (*e.g.* Abstract) includes obtaining (*i.e.* receiving) media from various sources characterized by different formats (2nd col, page 443), including film, which is characterized by a 24 frame/sec rate, and involves conversion from analog to digital form, if not already in digital form (1st col, page 442).” Also included is random-access RAID storage, and eventually displaying the edited signal. Hioki is added to include handling of audio signals (not mentioned in Epstein), and Spoer provides for conversions between disparate formats.

Epstein is an industry-survey type of document; the point presented is that as general-purpose computers become more capable, they can take over the role of proprietary machines used in the film and video industries, such that “the distinction between video, film and print is blurring.” (Epstein, Abstract). The Epstein article is vague and futuristic. Though it talks about “resolution and format independence,” it provides no specific details in conjunction with any real-world or practical implementations. “Format and resolution independence enables the combination of elements obtained per multiple media, *e.g.* film, video, print and computer graphics. Imagery from one format can easily be transformed in any size to any other desired output format and resolution.” (Epstein, page 443, section 3). The prediction is that “now, with format and resolution independent systems, video post houses can expand into the film market. Coming from the other end, film houses can now compete for more business since they can operate in a much larger video market.” (Epstein, page 444, section 4 “Conclusion”)

In applying the Epstein reference, the Examiner seems to overlook very specific language in Applicants’ claims, resorting to more general interpretations. For example, with respect to Applicants’ recitation of converting video information into a production format having a frame made of substantially 24 frames per second, the Examiner points to Epstein’s “conversion from analog to

digital form, if not already in digital form.” (Epstein, col. 1, page 442). A conversion from analog to digital is clearly not the same as a conversion from a program with a frame rate other than 24 FPS into a program having a frame rate of 24 frames per second. Moreover, having made this conversion, the systems and methods of Applicants go on to perform additional conversions, as desired, to produce an output format. Such features are not specifically addressed by the Epstein article.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference of the combined reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest *all the claim limitations*. MPEP §2143 – Basic Requirements of a *Prima Facie* Case of Obviousness. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants’ disclosure. In Re Vaeck, 947 F2d 488, 20 USPQ 2nd 1438 (Fed. Cir. 1991).

In this case, apart from the fact that there is no teaching or suggestion to make the claimed combination from factual evidence present in the prior art, even when the Examiner’s proposed combination is attempted, not all of the claim limitations are met. More specifically, the teachings of Hioki (e.g. Abstract) are applied only to show that some systems include an accompanying audio component. Hioki *et al.* disclose an analog video system (one which is compatible with the Japanese MUSE broadcast format), with the option of digital for audio only. Spoer is cited for the purposes of providing non-linear editing techniques such as panning (page 221). Spoer does not contemplate any significant storage capability: “[a]n application demand for an image sequence storage system for high resolution motion pictures is to achieve a display length of 5 to 20 seconds.” (220:2-4). This clearly is not sufficient for any normal “program.” In short, both Epstein and Spoer are targeted towards post-production applications only, which we are led to believe by context as comprising special effects and similar activities acting only on portions of a program.

The Examiner argues that the Epstein/Hioki/Spoer combination is appropriate “for the clear benefit of providing the post-production operator with as large of range of editing options possible, such being the typical desire of the studio operator, thereby meeting claim 256.” Applicants disagree. There is no suggestion or motivation from the prior art to support the proposed combination, nor is there any factual evidence that the Examiner’s proposed benefit would result. There is no reasonable

expectation that the bits and pieces of Epstein, Hioki and Spoer would provide a production operator with "as large a range of editing options possible," let alone any proof as to what those additional options might be.

But perhaps more importantly, even if the proposed Epstein/Hioki and Spoer combination were made, the limitations of Applicants' claims would not result. With respect to independent claim 256, the method includes the step of converting video information to a digital production format having a frame rate of substantially 24 frames per second "when the video information is not received in such a format." There is no evidence in any of the cited references in support of this step. Indeed, although Epstein teaches that film people may enter into the video realm and vice versa, due to the increasing capabilities of general-purpose computers, in the end, Epstein makes it clear that the two cannot remain separate. "Video post houses can expand into the film market, and film houses can now compete in the much larger video market." (Epstein, page 444, Section 4 – Conclusion). Nowhere in Epstein, or in Spoer, or in Hioki, is there a teaching or suggestion of a production format of 24 frames per second, including the necessary conversion of an input program into that format. Accordingly, *prima facie* obviousness has not been established.

With regard to dependent claims 266, 268, 297, 300-303 and 311, as these all have limitations to independent claim 256, *prima facie* obviousness has not been established in these cases either, or in no case does the Epstein/Spoer/Hioki combination justify the rejection of claim 256.

Section 16: The Rejection of claim 265 under 35 U.S.C. §103(a) over Epstein *et al.* in view of Spoer and Hioki *et al.*, and further in view of Wilkinson.

The Examiner has cited Epstein *et al.* in view of Spoer and in view of Hioki *et al.* as the basis for a 103(a) rejection of claim 265. Because claim 265 is dependent from independent claim 256, the same arguments apply as for the Section 15 claims, above.

Claim 265 includes the limitation of a 1920 x 1080 format. Such a format was known at the time of application; however, the disclosure of Wilkinson resides in providing a common method (not a common format) for recording images at any of a variety of frame rates. The actual recording format is "a helical-scan digital VTR, which uses the same track format for all frame rates by variation of the tape and drum speeds. Thus while the format of individual oblique tracks will remain the same, the number of oblique tracks per second will vary with the frame rate. At 25 frames per second there may,

for example, be 24 x 25 oblique tracks per second." (3:55-62). In other words, all of the frames must have the same pixel dimensions, and the digital data is spread uniformly across some number of tracks (in this example—24 tracks). The frame rate determines how many tracks are required, per second, to capture all of the data for all of the frames.

The system of Wilkinson does not facilitate any change in the frame rate; because of the recording format, it only accommodates changes in the size (in pixels) of the image frame; [with regard to standards conversion from HDTV to 625-line system] Wilkinson states: "However, it is to be noted that the necessary standards conversion can be quite simply effected because only spatial sub-sampling is required, because the signal already has the required frame rate." [Emphasis added] (1:46-50)

Although there is no specific reference to data compression, the nature of the recording process limits it to signals which can have only intra-frame compression. MPEG-2 compression --- in which an I-frame (intra-frame compressed) typically is mixed with 14 P-frames (predictive) and B-frames (bi-directional), thereby creating a GOP ("Group Of Pictures") consisting of 15 frames --- has a very uneven data rate, with the I-frames consuming much more of the data stream than any of the B-frames or P-frames. Wilkinson specifies a system in which each frame is allocated the same portion of the overall data stream, and this would make no sense with an MPEG-2 data stream.

Section 17: The Rejection of claim 267 under 35 U.S.C. §103(a) over Epstein *et al.* in view of Spoer and Hioki *et al.*, and further in view of Six.

This matter is moot, as Applicants have cancelled claim 267, without prejudice.

Section 18: The Rejection of claims 276 and 285 under 35 U.S.C. §103(a) over Schafer in view of Six.

The Examiner has cited Schafer in view of Six as the basis for a 103(a) rejection of claims 276 and 285. Applicants are unable to identify the camera cited by Examiner as being disclosed "1st paragraph on page 12/1"; the 24 frames per second reference in this paragraph is referring to a film clip shown by the presenter at the beginning of his presentation.

Six is clear in its description of the capability and purpose of the Kodak Electronic Intermediate System: "Although designed to create special effects electronically for theatrical films, it will allow television producers to create high-quality special effect film elements for inclusion in the

film master. It is based on a high resolution digital image standard for motion picture film presently being developed by an SMPTE engineering committee. A key to the system is that, by operating in non-real-time, it can deliver the resolution needed to operate *transparently* between film input and film output — that is, with no sacrifice of film quality. Such a system requires more than 2000 vertical scanning lines to handle the image information in a frame of 35 mm film. This requirement calls for twice the resolution of any of the proposed HDTV standards.

“The system will scan 35 mm film images and convert them to high resolution digital data. These data will be manipulated at the image computing workstation. Images can be color-graded or painted, and composited with other film-originated images or computer-completed graphics. The digital record on the tape is then output back to film for a seamless insert.” (12/5:1-14)

The above quote is the only reference to “graphics.” The only input suggested is film—by way of a high-resolution film scanner, which would be at 24 frames-per-second. The only output suggested is to a film recorder, which would be at 24 frames-per-second. Therefore, there is no suggestion of frame rate conversion.

There is no need to have the capability to accept inputs in a variety of formats, to be converted into a single internal format. There is no need to have the capability to convert the stored images in an internal format into alternative output formats. There is no mention at all of audio facilities.

In summary, the system disclosed is nothing more than an image manipulation workstation-system, with no editing provisions, no audio handling provisions, and processing capacity limited to individual scenes.

Section 19: The Rejection of claims 284 and 293 under 35 U.S.C. §103(a) over Schafer and Six, and further in view of Wilkinson.

The Examiner has cited Schafer in view of Six, in further view of Wilkinson as the basis for a 103(a) rejection of claims 284 and 293. Since these claims are dependent claims from independent claims 276 and 285, respectively, the arguments of Section 18, above, apply here as well, as do the comments regarding Wilkinson noted in Section 16.

Section 20: The Rejection of claims 281, 290 and 304-309 under 35 U.S.C. §103(a) over Schafer and Six, and further in view of Epstein.

This matter is moot, as the Applicants have cancelled claims 281, 290 and 304-309, without prejudice.

Section 21: The Rejection of claims 282, 283 and 292 under 35 U.S.C. §103(a) over Schafer, Six, and Epstein, in further view of Spoer.

This matter is moot, as the Applicants have cancelled claims 282, 283 and 292, without prejudice.

Section 22: The Rejection of claims 289 and 310 under 35 U.S.C. §103(a) over Schafer and Six, and further in view of Hioki *et al.*

The Examiner has cited Schafer and Six, in further view of Hioki *et al.* as the basis for a 103(a) rejection of claim 310. The §103(a) rejection of claim 289 is moot as Applicants have canceled this claim, without prejudice. Claim 310 is dependent from independent claim 276, thus, all of the previous arguments in the above sections are relevant.

As previously noted in the comments regarding Section 18, Applicant can find no mention of video cameras in the disclosure of Schafer. As also noted above, Schafer makes no mention of audio facilities, and this is expected, as the normal process is to edit the film images and audio soundtrack separately, and mate them at the end of the process when the final product is created—35 mm. film cameras do not have any audio facilities.

As further noted in Section 15, the system of Hioki *et al.* only provides for digital recording of the audio portion of the program material—the video portion is recorded as an analog signal. Based on the data rates taught in Spoer, even one second of recorded video would fill a CD-type optical disc, and even a DVD disc would only hold 15 seconds or less of video material.

Section 23: The Rejection of claims 312-315 under 35 U.S.C. §103(a) over Epstein in view of Spoer and further in view of Six.

The Examiner has cited Epstein in view of Spoer and in view of Six, as the basis for a 103(a) rejection of claims 312-315. Claims 313-315 are dependent from independent claim 312.

It is noted that none of these references suggest converting all of the sources into a single, common format, and collecting, integrating, and storing the materials in that single format.

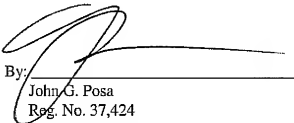
Applicant further believes that Six is not an appropriate reference for adding audio capabilities; the processor disclosed only is for playback of audio materials, and has no editing capability.

Section 24: Claims 316-319

The Examiner has indicated that "claims 316-319 appear allowable over the prior art." As Applicants have addressed the issues under 35 U.S.C. 112, these claims should be in condition for allowance.

Based upon the foregoing amendments and comments, Applicants believe all pending claims are in condition for allowance. Questions regarding this application may be directed to the undersigned attorney at the telephone or facsimile numbers provided.

Respectfully submitted,

By: 

John G. Posa
Reg. No. 37,424
Gifford, Krass, Sprinkle et al
PO Box 7021
Troy, MI 48007-7021
(734) 913-9300 FAX (734) 913-6007

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